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Remarks

Amendment

Previously withdrawn claims 2-4, 10-17, 26-30, 42-44, 50-57, 61, 62, 66, 70-73, 77 and 78 are canceled. Claims 7, 47 and 67 are canceled.

Claims 1, 41 and 65 are amended to require glyphosate or a salt or ester thereof. The cationic surfactant component of claims 1, 31, 41 and 65 is amended to require at least one alkoxyated amine surfactant. Support for both amendments is provided throughout the specification. Claims 1 and 31 are amended to include decylamine. Support is provided at Examples 9 and 10.

35 U.S.C. §112, First Paragraph (Enablement)

Reconsideration is respectfully requested of the rejection of claims 1-4, 7-26, 28-34, 37-44, 46-63, 65-79 and 126-129 under 35 U.S.C. §112, first paragraph, as containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to make or use the invention commensurate in scope with these claims. The Office's rejection is based upon the variations permitted in the claims for the component constituents of the claimed compositions in view of the unpredictability of the microemulsion formulation art.

A specification must be taken as in compliance with the enablement requirement of 35 U.S.C. §112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for the enabling support. (See, e.g., *In re Marzocchi*, 439 F.2d 220, 223-4 (CCPA 1971); see also MPEP §2164.04). As a result, the burden rests on the Patent Office to establish a *prima facie* case of nonenablement, which requires the Office to provide **acceptable evidence or reasoning** inconsistent with the contested statements. (*Id.*; see also *In re Strahilevitz*, 668 F.3d 1229, 1232.). In this instance, Applicants respectfully submit the Office has failed to establish a *prima facie* case of nonenablement with respect to the invention as defined by claims 1-4, 7-26, 28-34, 37-44, 46-63, 65-79 and 126-129.

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The Office cited Applicants' statement regarding unpredictability in herbicide microemulsion formation as a basis for its assertion that the claims contain subject matter which is not described in the specification in such a way as to enable one skilled in the art to make or use the invention commensurate in scope with the claims. It is most respectfully submitted that the Office's reliance on that statement is misplaced and taken out of context. Applicants stated that the unpredictability in the art is one reason why one skilled in the art would not have been motivated to combine the references cited by the Office in the obviousness rejection under 35 U.S.C. §103(a). As to 35 U.S.C. §112, first paragraph (enablement), it is maintained that unpredictability in the art is inapposite in this case as the instant specification fully enables the claims. In particular, Applicants maintain that the Office has failed to apply the proper standard for determining whether the specification meets the enablement requirement which, pursuant to MPEP §2164.01, requires that **the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation** (emphasis added).¹ Furthermore, as stated in MPEP §2164.01(b), as long as **at least one method** for making and using the invention that bears a reasonable correlation to the entire scope of the claim is disclosed, then the enablement requirement is satisfied (emphasis added).

It is submitted that the specification provides a person of ordinary skill with direct and specific guidance with respect to methods for formation of the microemulsions and emulsions from the claimed components and having stability at -10°C as required by claims 1, 31 and 41 (and implicitly at 0°C as required by claim 65). See, for instance, Examples 8, 9 and 11-14. Furthermore, Examples 11 (runs 912N7T and 912O4B), 12 (run 913B3E) and 13 (run 914F8F) demonstrate compositions having 0°C stability and a weight ratio of cationic surfactant to stabilizer between 1.5:1 and 6:1 as required by claim 65. Thus, undue experimentation would not be required to practice the claimed invention in view of the unpredictability of the field and the breadth of the claims, and the specification fully enables the scope of claims 1-4, 7-26, 28-34, 37-44, 46-63, 65-79 and 126-129.

¹Citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

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Reconsideration is respectfully requested of the rejection of claims 1-4, 7-26, 28-34, 37-44, 46-63, 65-79 and 126-129 under 35 U.S.C. §103(a) as being unpatentable over the combined teaching of **Jimoh** (US 6,369,001), **Wright et al** (US 5,750,468), **Maier** (US 6,667,276) and **Okano et al** (US 6,030,923).

Jimoh describes a microemulsion formulation comprising a water-soluble herbicide, an oil soluble herbicide, a water-immiscible organic solvent, an emulsification system comprising one or more surfactants each having a tertiary amine functional group, one or more water-soluble chlorides and a dispersing system comprising one or more nonionic surfactants. ~~Anionic surfactants are not described or suggested.~~

Jimoh describes formulations including a water-immiscible organic solvent, but the purpose of that solvent is to prevent degradation of the oil soluble herbicides by water not for low temperature stability. A water-immiscible organic solvent in the absence of a dissolved pesticide is not described, suggested or exemplified.

Jimoh teaches away from the use of the claimed alkyl or benzyl amine stabilizers for microemulsion low temperature stability. **Jimoh** describes low molecular weight (C_{1-8}) organic ammonium chlorides as stabilizers (col 11:48-52), but those compounds must be highly water soluble in order to prevent oil-soluble herbicide degradation (col 11:25-35). **Jimoh** achieved low temperature stability of 0°C or less only with non-organic ammonium chloride stabilizers and therefore teaches away from the use of the claimed alkyl or benzyl amine stabilizers for microemulsion low temperature stability. See **Jimoh** Examples 13-17 and 19 where benzalkonium chloride stabilizers² (having at least 17 carbon atoms) provided only 22°C stability and Example 18 where isopropyl amine stabilizer (having 3 carbon atoms) likewise gave only 22°C stability. In contrast, **Jimoh** Examples 1-12, directed to ammonium chloride

²A mixture of alkyl dimethylbenzylammonium chlorides of the general formula $C_6H_5CH_2N(CH_3)_2RCl$ in which R is a mixture of C_8H_{17} to $C_{18}H_{37}$ alkyls. See The Merck Index, Twelfth Edition (1996), at page 177.

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stabilizer, gave -10°C stability. In view of *Jimoh* it is surprising and unexpected that microemulsion low temperature stability can be achieved with the claimed stabilizers.

Anionic surfactants are generally not preferred in formulations of the present invention (see page 6, lines 5-17 of the specification). *Maier* teaches that anionic surfactants are required for microemulsion formulation and fails to describe low temperature microemulsion stability. *Maier* generally describes formulations comprising an aqueous carrier phase containing a dissolved water-soluble salt of glyphosate, a basic (i.e., cationic) surfactant, an acidic (i.e., anionic) surfactant, and optionally including a water-insoluble herbicide such as oxyfluorfen and an organic solvent, but examples of such formulations are not provided. Suitable cationics are broadly disclosed at column 4:19-57 with non-alkoxylated amines being generally described, while nonionic surfactants are not described or suggested. Combinations of basic surfactants (i.e., amine surfactants) is generally suggested at column 3:52-53, but specific combinations are not described, suggested or exemplified. Moreover, cationic surfactant combinations in the absence of acidic phosphoric ester surfactants (i.e., anionic surfactants) is not described, suggested or exemplified.

Maier, at Table 2, Formula XI, describes a surfactant system consisting of an anionic phosphate ester surfactant and octyl amine, but a cationic surfactant is not included, a second herbicide is dissolved in the organic phase, and 15.6 wt% of the water-miscible solvent N-methylpyrrolidone is included. Moreover, that example does not describe or suggest microemulsion low temperature stability. *Maier* therefore suggests that microemulsion formation in glyphosate compositions requires the presence of an anionic surfactant and a water-miscible solvent and teaches away from the combination of cationic surfactants as is instantly claimed.

Therefore, as compared to pending claims 1, 31, 41 and 65, *Maier* (1) does not describe or suggest the combination of the claimed cationic surfactant and stabilizer; (2) does not describe or suggest low temperature stability; (3) requires the presence of an anionic surfactant; (4) does not suggest a water-immiscible solvent in the absence of an oil soluble herbicide as each working example is a 2-way pesticidal composition comprising an oil soluble herbicide and an organic solvent; and (5) the glyphosate working example at Table 2, Formula XI, contains 15.6 wt% N-methylpyrrolidone which

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is miscible with water in combination with 7.5 wt% Solvesso 200 (aromatic hydrocarbon) which is immiscible with water. As compared to pending claims 41 and 65, **Maier** does not describe or suggest a weight ratio of cationic surfactant to stabilizer. As compared to pending claim 41, **Maier** does not describe or suggest nonionic surfactants.

In reference to the December 9, 2004 response to the July 9, 2004 Office action, the **Okano** solutions exclude the presence of a water-immiscible organic solvent as required by each of the pending claims. Microemulsion formation depends on the presence of an oil phase, which is absent from **Okano**, and one skilled in the art would therefore not consider the transparent solutions reported in table 1 to be emulsions or microemulsions, but instead would be lead to believe those compositions are simply a single aqueous phase solution containing dissolved glyphosate salt. **Okano** therefore does not describe or suggest emulsions or microemulsions, much less that emulsion or microemulsion low temperature stability could be achieved as is instantly claimed. Emulsions or microemulsions cannot even be said to be inherent in **Okano** because of the absence of a water-immiscible organic solvent.

Wright describes glyphosate herbicidal concentrates comprising alkyletheramine surfactants. **Wright** does not describe, suggest or exemplify a water-immiscible organic solvent, a claimed stabilizer or compositions that are microemulsions or emulsions.

Maier, **Okano** and **Wright** do not overcome the deficiencies of **Jimoh**. In particular, one skilled in the art would not have been motivated by **Maier**, **Okano** and **Wright** to replace the non-organic ammonium chloride stabilizers of **Jimoh** with the claimed organic stabilizers in order to achieve the claimed microemulsions and emulsions having low temperature stability, particularly in view of **Jimoh**'s contrary teaching; the cited art does not suggest the desirability of the modification.

Maier, by virtue of the presence of an anionic surfactant, solves a different problem than **Jimoh**, which is devoid of any description or suggestion of anionic surfactants. **Maier** does not suggest that microemulsion low temperature stability can be achieved with the **Jimoh** benzalkonium chloride and isopropyl amine stabilizers. **Maier** does not describe glyphosate formulations containing the combination of the

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Jimoh stabilizers and cationic surfactants, much less their weight ratio. Even if one skilled in the art could somehow be said to have been motivated to combine **Maier** and **Jimoh**, the resulting formulation would contain glyphosate, a water-immiscible organic solvent, a water-miscible organic solvent, a cationic surfactant, a nonionic surfactant and an anionic surfactant, the formulation having only 22°C stability. One skilled in the art would not have had a reasonable expectation of success in making such a combination. Nor would one skilled in the art have been motivated to eliminate the anionic surfactant and water-miscible solvent from **Maier** and combine that selection of components with **Jimoh** to arrive at the claimed microemulsions or emulsions having a low temperature stability not suggested by **Maier** or **Jimoh**. Such a conclusion would amount to impermissible hindsight reconstruction of the claimed invention.


Okano describes single phase aqueous solutions and excludes the presence of a water-immiscible organic solvent, and is therefore directed to a different problem than that addressed in **Jimoh** and **Maier** which describe microemulsions. One skilled in the art would not have looked to solution chemistry to stabilize and emulsion or microemulsion. **Okano** adds nothing to **Jimoh** and simply reaffirms **Jimoh's** teaching that -10°C stability cannot be achieved for the glyphosate concentrates containing an alkoxylated amine cationic surfactant and an organic amine stabilizer; that teaching is contrary to applicants' discovery.

Wright describes glyphosate herbicidal concentrates comprising alkyletheramine surfactants, but does not suggest stabilizers, water-immiscible organic solvents or compositions that are microemulsions or emulsions and therefore cannot overcome the deficiencies of **Maier**, **Okano** and **Jimoh**.

In view of the above, favorable reconsideration and allowance of all pending claims are respectfully solicited.

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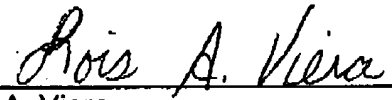
Respectfully submitted,



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CERTIFICATE OF FACSIMILE

I certify that this Amendment C in the application of Norman R. Pallas, et al., Serial No. 09/988,352, filed November 19, 2001 is being forwarded via Facsimile to: Commissioner for Patents, at 703-872-9306, on this 11th day of July, 2005.



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